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PREFACE

THE pages of this book, which bear this
T. St. Isaac Newton's house and its dis-
tinguished tenants have already appeared
as a series of weekly articles in "The West-
minster Record," and "The Marylebone
Record & West London News," and as the
Editor, Mr. J. H. Johnson, has kindly
acknowledged the fact that the book will
the name of the series in book form will
be "A House of Memories."

A HOUSE OF MEMORIES

BY

THE REV. ISAAC HARTILL, D.D.

Isaac Hartill.
April 27th 1871.

First published in "The Westminster
Record" and "The Marylebone Record
& West London News."

PREFACE.

THE pages of this book, which deal with Sir Isaac Newton's house and its distinguished tenants, have already appeared as a series of weekly articles in "The Westminster Record" and "The Marylebone Record & West London News," and to the Editor, Mr. J. H. Johnson, my grateful acknowledgments are due. It is hoped that the issue of the articles in book form will introduce them to a still wider circle, extend the appreciation with which they have already been received, and constitute a permanent memorial of the great and brilliant memories of Newton House.

Newton House was one of the historic landmarks of London, and visitors from other lands, especially from America, were accustomed to include the inspection of the House in their tour. Houses of much less historic interest and importance have been preserved, or purchased for the benefit of the nation, and I think that all readers of this book will agree with me that the demolition of Newton House was nothing short of a national calamity. In seeking to preserve the memories of the House, I am endeavouring to atone for the loss, and to render what I conceive to be a desirable, if not indeed an essential service or contribution to the literary and social history of the Eighteenth Century.

On the site of Newton House, and the land adjoining, the Westminster City Council, at a cost of £55,000. is erecting a Public Free Library. This is very fortunate, as the Library will serve not only to identify the spot, but will be the most appropriate type of building with which to perpetuate the memories of a house so closely associated with books and great book-lovers.

ISAAC HARTILL.



NEWTON HOUSE IN 1913.

A HOUSE OF MEMORIES

— BY —

The Rev. ISAAC HARTILL, D.D.

London's geographical centre and great converging point of traffic—"the hub of the universe"—cosmopolitan in population and language—Theatreland—"the lights of London"—more brilliant and densely-massed than elsewhere—the greatest pleasure-loving area probably of the world, certainly of England—the rendezvous of the gay, the fashionable, the dissipated—the resort also of the eminent in drama, music, art, and "belles lettres"—such is the Leicester-square of 1926.

Where Newton Lived.

On the south side of the square, and leading out of it, is St. Martin's-street, a short and narrow street which, crossing the narrow and elongated Orange-street at right angles, proceeds to the rear of the National Gallery. It was in this street, on the left side, and at the corner of Long's-court, that there stood for upwards of two centuries the house of which Macaulay said : "Newton House is well known, and will continue to be well known as long as England retains any trace of civilisation."

Although the inevitable demolition of the house in November, 1913, seemed to have falsified the great historian's words, yet the words are true

in substance, for England, and indeed the world, can never forget its indebtedness to Sir Isaac Newton and his many researches and discoveries. Neither can literature forget its association with Newton House. It may be said with safety that no house in London could boast of richer, greater or more numerous scientific and literary associations. So inextricably interwoven was Newton House with the history of science and literature in this country that Macaulay's pronouncement must vindicate itself as true. That so famous a house should have been permitted to disappear was nothing short of a national loss. It was a calamity which the writer, amongst others, was very anxious to avert, but the ravages of time and the requirements of municipal authorities were inexorable, and another link with the eighteenth century, perhaps the greatest and most deeply interesting link of all, was destroyed. But even in their literal sense, Macaulay's words are not yet entirely falsified, for Newton House was purchased (by Hugh Phillips, Esq., Manor House, Hitchin) with the view to re-erection elsewhere. Plans and measurements were carefully taken, and the demolition accomplished with great care so as to permit of the material being used again in reconstruction. Upon new and firm foundations Newton House would present the same appearance externally and internally as of old, and would be a long-lasting national memorial to England's greatest natural philosopher.

.Orange Street Chapel.

Adjoining Newton House was the

historic Orange-street Chapel which, built in 1685, was, for reasons of public safety, demolished in September, 1913. It was the writer's honourable, but melancholy distinction, to conduct the last service in the old building, the oldest Nonconformist sanctuary in Westminster, and a sanctuary endeared to thousands by its unique and interesting associations. Its walls had resounded with the eloquence of great French orators, and many distinguished English preachers, including Augustus M. Toplady, author of the immortal hymn, "Rock of Ages." The Chapel was built in 1685 by the Huguenots who had been driven from France by the Revocation of the Edict of Nantes. Here in England these Protestant refugees found hospitality—hospitality which in their quickening and enriching influence on trade and manufactures, art and religion, they more than repaid—and freedom to worship God in their own way; and in accordance with their deepest and most sacred convictions. The Chapel thus stood as an earnest protest against ecclesiastical despotism, and a plea for liberty of thought and worship. Its fascinating and romantic story is as closely interwoven with the history of religion in England as is Newton House with our country's scientific and literary history. Orange-street Chapel was associated with, in fact, it might be described as the

" home " of two great Revivals

—the Revival of religion in France in the seventeenth century, when thousands of Catholics became Protestants; and the Revival of religion in

England in the latter part of the eighteenth century, the great Evangelical Revival led by Wesley and Whitfield. The Chapel had thus interesting and vital links with two nations. Its history is divided into three periods: the Huguenot Period from 1685 to 1776; the Anglican Period from 1776 to 1787; the Congregational Period from 1787 to the present. Of the three Periods, the Anglican, although short, was undoubtedly the most brilliant. Toplady, who was the outstanding figure of this Period, drew around him a great and fashionable congregation. The worshippers included the Duke of Kent and the Duke of Sussex.

Newton House and Orange-street Chapel stood side by side for upwards of two centuries. There seemed to be a peculiar sympathy between the old house and the Chapel. Changes of tenants in the one, changes of denominations in the other. There were distinct periods in the history of the house, and there were, as we have seen, distinct periods in the history of the Chapel. Vicissitude and variegated romance were the characteristics of both buildings. Newton was a deeply religious man, and not without sympathy with the exiles next door who were forced to sing the songs of Zion in a strange land. And his sympathy would be all the greater from the fact that he himself knew what persecution meant, for it fell to him as to other pioneers of science and discovery to be branded as an enemy to religion.

Dr. Charles Burney, the most famous of subsequent tenants, married a wife of Huguenot descent, and

though, in his days, the Chapel had passed from the Huguenots to the Anglicans, his interest in it was considerable, quite apart from propinquity, and he and his clever daughters must often have noticed the stream of worshippers issuing from the Chapel. Age seemed to deepen the sympathy between the Chapel and the house as if their common vicissitudes had drawn them together and led them to lean upon each other for sympathy and support. Ultimately, in 1858, the two were wedded under a common proprietorship, for the "chapel" purchased its sympathetic neighbour—the "house." The two then became partners in a common cause. Newton House was utilised for a Sunday School, for temperance meetings, and other meetings connected with the Church. In its last days it became quite a centre of useful agencies, all with a definite Christian aim, such as Mission for Cabmen, etc.

Two Buildings Like David and Jonathan.

True to the last, Newton House became the temporary home of the church itself, after the demolition of the Chapel, and was utilised for all its services and meetings in the two months which intervened before its own disappearance. The sympathy between the old house and the old Chapel thus deepened with the years, and culminated, as it were, in complete identification. The house became the church. May we not say of these two historic buildings: "They were lovely and pleasant in their lives, and in death they were not divided!"

It is believed that Sir Isaac Newton designed and built the house expressly for himself. The responsibility for this belief rests with Fanny Burney, who says : " The house is a large and good one. It was built by Sir Isaac Newton, and when he constructed it, it stood in Leicester **Fields**, not **Square**, that he might have his observatory unannoyed by neighbouring houses; and his observatory is my favourite sitting-place, where I can retire to read or write any of my private fancies or vagaries." In the early part of the eighteenth century, London spread little further west than Leicester Fields, and no doubt Newton's selection of this particular spot was influenced by his desire to have an unobstructed view of the heavens. Even if Newton did not design and build the house itself, there is but little doubt that he planned and constructed the observatory, which was placed on the roof. High aloft there, he told a friend, he had spent some of the happiest moments of his life. There his astronomical and other research work was carried on. The observatory, which "overlooked all London and its environs," was a glazed turret, a mere framework of small panes; with a small fireplace and chimney, and a cupboard. On the little landing there was a cupboard for coals. When, in the autumn of 1774, the famous Burney family had settled in the house, Fanny Burney wrote: " We came ten days ago to this house, which we propose calling **Newton House**, or **The Observatory**, or something that sounds grand. By the way, Sir Isaac Newton's observatory is still subsisting, and we show it to all our visitors as our principal

lion." In the fearful hurricane of 1778, the glass sides of the observatory were completely demolished, and the leaden roof swept entirely away. Dr. Burney, in his ardour for Newton's memory, rebuilt the observatory. Ultimately, the observatory was purchased by an American, who removed it to his own country. When Newton went to Leicester Fields in 1710, he was already a famous man. Many of the greatest discoveries associated with his name had already been made; his immortal "Principia" had been published, and he had attained the Presidency of the Royal Society. As Newton's career was full of extraordinary interest, a few biographical details are here given. They will enable us the better to understand the man himself.

Isaac Newton was born at Woolsthorpe, Lincolnshire, on December 25th, 1642. His father, Isaac Newton, who died a few months before the birth of his distinguished son, was a farmer, and proprietor of the Manor of Woolsthorpe. The boy was sent at an early age to the village school, and when he had reached his twelfth year, to a school at Grantham. Indications of remarkable talent, especially for mechanics, soon began to appear in the boy. His favourite playthings were little saws, hammers, chisels, and hatchets, and with these instruments he made many curious and ingenious things. A windmill was in course of erection near his home. He watched the workmen with intense interest, and then constructed a small model of the mill, which, on the testimony of one of his friends, was "as clean and curious a piece of workmanship as the original." Isaac was dis-

satisfied with his mill because it would not work when there was no wind, and he therefore made an ingenious addition to it by means of which the mill could be kept in motion by a mouse. He also made a water-clock. The dropping of the water on a wheel constituted the motive-power. Every morning, on getting out of bed, the boy wound up his clock by supplying it with the water requisite to keep it running for twenty-four hours. His ingenuity was further seen in the construction of a four-wheeled carriage, which was propelled by the person sitting in it. With the view to amuse his playmates, he made a number of most ingenious kites, attaching to their tails lanterns of crimped paper, which were lighted by a candle, and being sent up in the evening, filled the rustics of the village with consternation and alarm. For the girls, he was unwearied in the manufacture of little tables, chairs, cupboards, dolls and trinkets. His powers of observation, which afterwards proved so remarkable, now began to exhibit themselves. Closely watching the shadows of the sun, he marked the hours and half-hours by driving in pegs on the side of the house, and ultimately constructed the sun-dial. His constructive genius and powers of observation were, happily, combined with skill in mechanical drawing. Although he never received the slightest instruction, he could draw so well that the walls of his room were covered with portraits of his schoolfellows and other acquaintances, which he had not only sketched to the life, but adorned with elegant frames, all of which he made himself.

Ambition is sometimes awakened in

a youth by a very trifling incident. Newton's greatness is said to date from a quarrel with a schoolboy. Although Newton had conquered and subdued the boy in the playground, he had the mortification of seeing him at the head of the class, while he himself was at the bottom.

He began to reflect. Was he entitled to regard himself as victorious over his enemy so long as his enemy lorded it over him in the schoolroom? Were the plaudits of the playground to be compared to the plaudits of the teacher? Were not the triumphs of mind nobler than the triumphs of sport? He decided, as the result of his reflections, that he would conquer his enemy again, which he ultimately did, after an arduous struggle, by taking his place at the top of the class. When he had completed his thirteenth year, his mother withdrew him from school to assist in the work of the farm. But Nature never meant him to be a farmer. It claimed him for different work. His intellectual tastes demanded an intellectual occupation. His inaptitude for the work of a farmer soon manifested itself. Once a week his mother sent him with an aged and faithful servant to the market. No sooner were the horses placed in the stable than he would seclude himself in a garret with his books, until the produce they had brought to market was sold, and it was time to return. In summer he would select some shady nook on the roadside, out of the market town, and there await the return of the wagon.

He was sent sometimes to the fields to watch the sheep and cattle, but within a very short time he would be

found perched up in a tree, absorbed in a book, or sitting on the bank of a stream deeply interested in the working of a water-wheel, while the cattle would be rioting in a cornfield and the sheep wandering away down a lane.

It required no great prescience on the part of the mother to see that Isaac would never make a farmer. His irresistible passion for study induced her wisely to send him back to the school at Grantham, from which in his sixteenth year he was drafted, on June 5th, 1660, to Trinity College, Cambridge, where he was satisfied to spend the next thirty-three years of his life.

Trinity College was known even in those days for its special preference for mathematical work. Algebra and geometry were part of the course, and in these and related studies, especially in the higher branches, and in their various practical applications, Newton rapidly distinguished himself. It was Carlyle's opinion that the best indication in a youth of superior understanding is a turn for mathematics. If a boy, in addition to pronounced mathematical gifts, possesses mechanical skill, together with decided powers of observation, there are good reasons for believing that, with proper direction and assistance, he will develop into a first-class man of science.

The soundness of Carlyle's view is corroborated by experience. No four men have done more to increase the sum of human knowledge in their own time than Copernicus, Galileo, Columbus and Newton, and they were all born mathematicians. All their discoveries were due directly or indirectly, to mathematics. Combined

with mathematical gifts were, in each case, unusual manual dexterity and highly-developed powers of observation. There were other respects, too, in which these four men resembled each other. All of them possessed what is so essential for scientific men—an amazing degree of patience. They were all men of child-like simplicity of character, all of them good citizens and, with the exception of Columbus, sound practical men of business, prudent and successful in the management of their private affairs. In order to prepare himself for the lectures at Trinity College, Newton studied the text-books in advance, and proceeded to read treatises and works extraneous to and beyond the ordinary curriculum. He appears to have been particularly pleased with what was then a celebrated treatise by Wallis, entitled “*Arithmetica Infinitorum*.” The study of this work led him, in 1663, when he had reached the age of twenty-one, to discover the famous formula known as the Binomial Theorem, a formula which enables us to find any power of a given binomial $a + b$ by means of the two terms a and b , and of the exponent of the power. It is upon this Theorem, sometimes called the Newtonian Theorem that the system of analysis is principally founded. It seems that the Binomial Theorem was known to a number of mathematicians before Newton, but they only knew it partially—as far as related to integral positive exponents. Newton’s discovery was in the application of the Theorem to **fractional** and **negative** exponents. Great as were his subsequent discoveries, few of them were greater or more important than this.

It was deemed of sufficient importance to be engraved on his memorial in Westminster Abbey.

Before 1665, that is before Newton had completed his twenty-third year, he had established his celebrated Doctrine of Fluxions, a doctrine associated with that branch of mathematical science known as the Calculus. In the physico-mathematical sciences and in the physical sciences generally, the Calculus has been of immense service. Newton did not write his treatise on the subject until 1669, that is, four years after his discovery, and unfortunately he postponed its publication until several years later. In this long interval between discovery and publication, Leibnitz, the celebrated German philosopher, had been at work upon the same subject, and announced to the world his discovery of the Differential Calculus. He naturally received the credit of the discovery, and, at the time, no one questioned his claim to be the first in the field. But in 1680, in the October issue of a German magazine known as "*Acta Eruditorum*," a writer, Fatio de Quillier, contended that Newton was the discoverer of this new and important method of calculation. The article was written in a somewhat offensive tone, and Leibnitz replied to it in a subsequent issue of the magazine. His reply put an end for a time to the dispute; but five years later it was re-opened through the publication by Newton of a treatise on Optics. To this work Newton appended an exposition of his method of Fluxions, which he claimed to have invented as early as 1666. An extract from Newton's book was published in the

“Acta Eruditorum,” and Leibnitz again asserted his claim to priority of discovery. Keill, Professor of Astronomy at Oxford, declared in the Philosophical Transactions for 1708 that not only was Newton the discoverer of the new system, but that Leibnitz had formed his own system, which differed in a few respects from Newton’s, upon Newton’s system. Leibnitz had not even done independent work, but had merely changed a few expressions and signs in Newton’s system, and was guilty of deliberate plagiarism.

Upon this, Leibnitz at once wrote to Hans Sloane, the secretary of the Royal Society, charging Keill with calumny, and asking the Society to decide the dispute. The Royal Society appointed a committee which, after due investigation, came to the conclusion that there was no essential difference between the Differential Calculus of Leibnitz and Newton’s Doctrine of Fluxions, but with regard to priority of discovery it was beyond dispute that Newton was in possession of the secret fifteen years before Leibnitz. This decision of the Society only widened the schism between the parties, and Leibnitz continued the quarrel by sending to the Abbe Conti, who was then in England, a letter which was meant to be shown to Newton, and which was full of offensive expressions. Newton himself was perfectly willing to acknowledge the independent work of Leibnitz, and his claim to the discovery, but he would not concede priority of discovery. But this unfortunate dispute would have been avoided if Newton had not been so modest and reserved. He was, as a

matter of fact, one of the shyest and most modest men of the age, and positively afraid of the notoriety which his discoveries might bring him. It was this dread of notoriety which led him to keep secret for years, not only the invention of the Calculus, but the Binomial Theorem, and its many important applications. The great discovery with which his name is for ever associated—the Law of Gravitation—was made years before its publication to the world. It is true that he communicated to a friend his solution of the theory of the moon's rotation round the earth, but he prohibited him from inserting his name in connection with it in the "Philosophical Transactions." "It would, perhaps," he said, "increase my acquaintance—the thing which I chiefly study to decline." Young men, it is often said, do the greatest things, and the world's progress is mainly due to them. Certainly in the case of Newton, the claim is just, for some of his greatest discoveries were made when he was quite a young man. He was but 23 when he discovered the Law of Gravitation. The story of that discovery is well known; 1665 was the year of the Great Plague, and as it had become necessary to close the University for a time, Newton spent several weeks at home. Seated in his mother's orchard one autumn day and observing the ripe fruit falling from the trees, he fell into a profound meditation upon the nature of the force that caused the apple to fall. It occurred to him that as the power of gravity is not found sensibly to diminish at the remotest distance to which we can ascend from the centre of the earth—

for instance, at the top of the highest mountains—it was not unreasonable to suppose that it extended much farther than was usually thought. Why not (he said to himself) as high as the moon? And suppose an apple should fall from the moon—what would be the inference? It seemed to Newton that the same force that drew the apple to the ground might have some influence upon the moon itself—might, indeed, keep the moon in its orbit. If this power or force of gravity retained the moon in its orbit, Newton conjectured that it might also keep the planets in their orbits. The grand mystery he desired to elucidate was: Why does not the moon fly off into space? And why not the planets? If the planets and the moon are kept in their respective spheres, what is the force that retains them? By availing himself of the astronomical information already in existence, Newton was able to test the accuracy or otherwise of his mighty conjecture. Through the labours of Copernicus and Galileo, the magnitude of the moon, its distance from the earth, and the force of the earth's attraction had all been ascertained, although not with complete accuracy. How indebted is one man to another, and one generation to another!

But for the labours of the intellectual giants who had preceded him, Newton's conjecture might have remained a conjecture. With his noble modesty and generous appreciation of the labours of others, Newton acknowledged this. "If," he said, "I have seen farther than Descartes, it is by standing on the shoulders of giants."

Newton, by calculating from Kepler's law, and supposing the orbits of the planets to be circles round the sun in the centre, had already proved that the force of the sun acting upon the different planets must vary as the inverse squares of the distances of the planets from the sun. He therefore was led to enquire whether, if the earth's attraction extended to the moon, the force at that distance would be of the exact magnitude necessary to retain the moon in her orbit. He found that the moon, by her motion in her orbit, was deflected from the tangent in every minute of time through a space of thirteen feet. But by observing the distance through which a body would fall in one second of time at the earth's surface, and by calculating from that on the supposition of the force diminishing in the ratio of the inverse square of the distance, he found that the earth's attraction at the distance of the moon would draw a body through fifteen feet in one minute. Newton regarded the discrepancy between the results as a proof of the inaccuracy of his conjecture, and "laid aside at that time any further thoughts of this matter." He then busied himself with other inventions and discoveries. Nineteen years afterwards, he found that, in common with all the English astronomers, he had been in error as to the moon's distance from the earth. With this error corrected, he repeated his calculations, and, as he was working them out, he felt sure that the agreement in results he had previously failed to find would now be achieved, and the truth of his mighty theory would be fully established. He was so overcome by emotion that

he was compelled to ask a friend to complete the figures. When the calculations were finished, Newton had the profound satisfaction of perceiving that his conjecture was a sublime, demonstrated truth. The whole material universe was now opened out before him; the sun with all his attending planets; the planets with all their satellites; the comets wheeling in every direction in their eccentric orbits; and the system of the fixed stars stretching to the remotest limits of space.

All the varied and complicated movements of the heavens must have been at once presented to his mind as the necessary result of that law which he had established in reference to the earth and the moon.

And so, so simple a thing as the falling of an apple from a tree had led to the discovery of the great law of gravitation as a universal law of Nature, the most brilliant and valuable discovery ever achieved by a human mind, a discovery by which scientists have been enabled to solve some of the most striking of natural phenomena. Thus it is that genius proceeds, step by step, from the simplest principles to the most sublime conclusions.

The Plague of 1665 being over, Newton returned from that enforced vacation, made so memorable by his great discovery, to the University, and in the course of two years had taken his degree, and been elected Fellow of his college. It was shortly after his return to the University that his attention was accidentally drawn to the phenomena of the refraction of light through prisms. His experiments led him to conclude that light,

as it emanates from the radiating bodies, is not simple and homogeneous, but composite in character. Nearly three years elapsed before he returned to his researches on this subject; but in 1669, being appointed Lucasian Professor of Mathematics, and preparing to lecture on Optics, he proceeded to mature his first results, and composed a complete treatise in which the fundamental properties of light were unfolded, established, and arranged by means of experiments alone, without any mixture of mere hypothesis. So much of the science of those days was mere conjecture, that Newton's method of submitting everything to experimental tests constituted quite a novelty. These optical researches culminated in Newton's invention of the reflecting telescope. On January 11th, 1671, it was announced to the Royal Society that his reflecting telescope had been shown to the King, and had been examined by Sir Robert Murray, President of the Royal Society, Sir Paul Neale, and Sir Christopher Wren. In 1672, Newton was elected a Fellow of the Royal Society, a Society to which he was devotedly attached, and of which he ultimately became President. He at once communicated to the Society the result of the various optical researches in which for several years he had been engaged. No sooner were these discoveries given to the world than they were opposed with a degree of virulence and ignorance, probably unsurpassed in scientific controversy. The ground of opposition was that most futile of all grounds, viz., that Newton's discoveries were in conflict with the theories of light already in exist-

ence, and accepted by scientific men. But by many masterly and convincing experiments, Newton was able to refute all objectors.

Pope's well-known couplet, while it applies to Newton's discoveries as a whole, has a special application to his optical discoveries:—

“Nature and Nature's law lay
hid in night;
God said, ‘ Let Newton be,’ and
all was Light.”

Between 1686 and 1687, appeared the three books of Newton's great work, known as the “*Principia*.” The first and second books are entitled, “*On the Motions of Bodies*,” and the third, “*On the System of the World*.” In this work he embodied the results of his many investigations, and traced, with wonderful sagacity, the consequences of the law of gravitation. He shewed how the tides were caused by the moon, and that the effect of the moon's action upon the earth is to draw its fluid parts into the form of an oblate spheroid, the axis of which passes through the moon. He also applied the law of gravitation to explain irregularities in the lunar months, the precession of the equinoxes, and the orbits of comets. Very few of Newton's contemporaries were capable of understanding the “*Principia*,” and it took more than half a century before the great physical truths which the work contained were thoroughly grasped and understood by scientific men generally. After the publication of the “*Principia*,” Newton, who had always taken a great interest in chemistry, devoted almost his whole time to that science, and made invaluable contributions to the scienti-

fic knowledge of the day, particularly with regard to fire, flame, vapour, heat, and electrical attractions. In 1687, Newton was one of the delegates sent by the University of Cambridge to maintain its rights before the High Commission Court, those rights having been attacked by James II. The following year, Newton was elected to the Convention Parliament. In 1701, he was again returned to Parliament, but he did not distinguish himself as a politician.

In 1695 Newton was appointed Warden of the Mint, and as a recoinage of the Mint had been decided upon Newton's mathematical and chemical knowledge proved of eminent service. Great men of science do not necessarily prove efficient men of business, but in many instances they have done so. Speculative ability and practical ability are two different things, and it is not often that they are combined in the same individual, and even where they are combined it is often in unequal proportions. The speculative man is apt to be undecided. He sees all the sides of a question, and is so occupied in balancing the pros and cons that he postpones definite action. Too exclusive a devotion to imaginative and speculative pursuits would seem to incapacitate a man for success in a business sphere. To succeed in business a man must be prompt, quick to arrive at a definite decision, and then act vigorously upon it. "The understanding," says an able writer, "that is accustomed to pursue a regular and connected train of ideas becomes in some measure incapacitated for those quick and versatile movements which are learnt in the commerce of the world, and are

indispensable to those who act a part in it. Deep thinking and practical talents require habits of mind so essentially dissimilar, that while a man is striving after the one he will be unavoidably in danger of losing the other."

"Thence," he adds," do we so often find men who are 'giants in the closet,' prove but 'children in the world.' " That witness is true, but in Newton's case "the giant in the closet " was also great and efficient in business. So ably did he fulfil his duties that, after four years, he was promoted to be Master of the Mint, and held the position throughout the remainder of his life. It was a position which necessarily brought him under the notice of Royalty, and in 1705 he received the honour of Knighthood from Queen Anne.

In 1710 Newton came to Leicester Fields, and, as we have seen, was at the zenith of his fame. Although some of his greatest discoveries had already been made, the researches he carried on during his occupancy of Newton House were of the most extensive and invaluable character, and fraught with great results to the scientific world, and to the commercial world as well, for many of his discoveries and inventions were capable of being utilised in the manufacturing arts, and had a direct bearing on commercial life. It was in Newton House that the second and third editions of the "Principia " were published. Newton appears to have kept up considerable style in the house in Leicester Fields, and had three men-servants and three maid-servants. His high position and the exalted position of so many of his

visitors rendered it necessary that he should maintain a good style.

Queen Anne died in 1714, four years after Newton had come to Leicester Fields, and with the accession of the new monarch, George I., Newton became an object of considerable interest at Court. His immense reputation, his spotless character, his eminent services to the nation and to the world, together with his official Government position as Master of the Mint, easily accounted for this closer introduction to Royalty. But there was another reason. The Princess of Wales, afterwards Queen Consort to George II., felt a peculiar and special interest in Newton. The Princess, who had intellectual tastes, delighted to converse with him, and found him able to supply her with information on many matters which she had been unable to obtain elsewhere. On one occasion Newton explained to her a system of Chronology which he had prepared for his own amusement. She was so pleased with it that she requested a copy for her own use. The Princess frequently declared that she considered herself fortunate in living at a time which enabled her to enjoy the society of so great a genius. The Princess was not alone in her eager desire for conversation with the great philosopher. Nearly all the most eminent men of the day wended their way to the house in Leicester Fields to confer with Newton upon some subject or other in which they were specially interested. Amongst his most frequent visitors were Abraham De Moivre and William Whiston, the two most celebrated mathematicians of the eighteenth century. De Moivre, who was born at Vitry, in

Champagne, in 1667, belonged to a French Protestant family, and at the Revocation of the Edict of Nantes, 1685, took refuge in England, where he remained the rest of his life. The foundation of his mathematical studies had already been laid in France, but in London he pursued his studies much further and received much assistance from Sir Isaac Newton. He soon became one of Newton's most intimate and personal friends, and in recognition of his eminence and abilities was elected F.R.S. in 1697, and later was admitted into the Academies of Paris and Berlin. In the famous contest between Newton and Leibnitz as to priority in discovery of the Calculus, the Royal Society had sufficient confidence in De Moivre's ability and fairness to appoint him to be the judge in the matter. De Moivre contributed a large number of papers to the "Philosophical Transactions," in many of which he suggested valuable improvements on the mathematical methods of the time. In 1718 he published the book by which he is best known, and which is dedicated to Newton, "The Doctrine of Chances, or Method of Calculating the Probabilities of Events at Play." This book, which for a long time was a classic, was reprinted in 1738, with many alterations and improvements, and a further edition, considerably enlarged, was issued in 1756. De Moivre also published a "Treatise on Annuities," which passed through several editions. His great reputation for mathematical skill and accuracy as a calculator is referred to in Pope's line: "Sure as De Moivre, without rule or line." De Moivre's life was quiet and uneventful. He

gained a livelihood by teaching mathematics and reading public lectures on natural philosophy. His last years were spent in obscure poverty, nearly all his friends and associates having passed away before him. He died in London on the 27th November, 1754, at the age of 87.

Whiston had many points of affinity with Newton, with whom his association was very close. Born in 1667, at Norton, Leicestershire, of which his father was rector, he was educated at Clare College, Cambridge, where he applied himself to mathematical study, and obtained a Fellowship. Entering into Holy Orders, he was appointed, in 1694, Chaplain to Dr. Moore, the learned Bishop of Norwich, from whom he received the living of Lowestoft.

Two years previously, he had published his "New Theory of the Earth," a theory based on the principles of the Newtonian philosophy. The work received the praise both of Newton and Locke, the latter of whom correctly described the author as one who, if he had failed to add anything to existing knowledge, had "at least brought some new things to our thoughts." In 1701, Whiston resigned his living to become deputy-professor of mathematics at Cambridge to Sir Isaac Newton.

Three years later, Newton resigned the professorship in Whiston's favour. Like Newton, Whiston was interested in Prophecy.

On his appointment as Boyle Lecturer in 1707, he selected as his subject, "The Accomplishment of Scripture Prophecies." For several years he continued to write extensively and with considerable success, both on

mathematical and theological subjects. Doubts concerning the doctrine of the Trinity, and the definite adoption of Arian opinions, led to his expulsion from the University, and the consequent loss of his Fellowship. The remainder of his life was spent in incessant controversy — theological, mathematical, chronological and miscellaneous. On leaving Cambridge, Whiston settled in London, and gave lectures on Astronomy; but the publication of his “*Primitive Christianity Revived*,” a work in five volumes, in which he vindicated his Arian views, brought him under the notice of Convocation, and he was prosecuted as a heretic, though the proceedings were ultimately terminated by an act of grace. Although heretical on many points, Whiston was a firm believer in supernatural Christianity, and both wrote and spoke in defence of miracle and prophecy. Refused admission to the Sacrament at his parish church, he opened his own house for public worship, and used a liturgy of his own composition. In 1747, the year in which he issued his “*Primitive New Testament*,” he finally left the Anglican Communion for the Baptist, leaving the Church literally as well as figuratively by walking out of the Church as the clergyman began to read the Athanasian Creed, a Creed which Whiston had opposed with much virulence.

Newton’s chronological system, which had so greatly pleased the Princess of Wales, did not satisfy Whiston, who attacked it with vigour, and with a certain amount of success. Whiston further distinguished himself by a scheme for calculating longitude, and by his opin-

ions relative to the Millenium, and the Restoration of the Jews. In all his opinions, Whiston was very pronounced. He did not seem to realise that there might be some truth on the other side, and his intellectual intolerance largely spoilt his career. Whiston is a striking example of the association of a paradoxical bent of mind with proficiency in the exact sciences. Although in theological matters he reached rationalistic conclusions, he himself was devoid of the rationalistic temper. It was only in controversy that he seemed to lose his mental balance; with regard to men and to things generally, he saw them much as others did, and was quite normal. He died in London, at the house of his son-in-law, on August 22nd, 1752. His "Memoirs of My Own Life," issued in three volumes, deserves more attention than it has received. It is marked with Whiston's strong individuality, and is a perfect storehouse of curious anecdotes and illustrations of the religious and moral tendencies of the age.

Another very frequent visitor to Newton House was the celebrated Dr. Edmund Halley, mathematician and astronomer, and whose name is associated with the great Comet of 1682, the return of which he predicted would take place in 1759, a prediction which was strikingly verified, and led everybody to speak of "Halley's Comet." Before he was nineteen, he published a Direct and Geometrical Method of finding the Aphelia and Eccentricity of Planets, which supplied a defect in the Keplerian theory of planetary motion.

By some observations on a spot which appeared on the sun's disc in

July and August, 1676, he established the certainty of the motion of the sun round its own axis. His detection of considerable errors in the astronomical tables then in use, led him to the conclusion that until the positions of the fixed stars were more correctly ascertained, progress in astronomical matters was impossible. Finding that Flamsteed and Hevelius had already undertaken to catalogue the stars in the northern longitudes, he undertook the task of doing similar work in the southern hemisphere, and in November, 1676, sailed for St. Helena, which was regarded, although erroneously so, as the best station for taking observations. On the voyage, he noticed the retardation of the pendulum in approaching the equator; and during his stay on the island, he observed, on the 7th of November, 1677, a transit of Mercury, which suggested to him the important idea of employing similar phenomena for determining the sun's distance.

He returned to England in November, 1678, after having registered 341 stars, an achievement which led him to be designated the "Southern Tycho," and secured for him, by express command of the King, an Oxford degree, as also election to the Royal Society. Six months later, Halley started for Danzig, to settle a dispute between the English philosopher, Hooke, and the famous Hevelius, relative to the use of optical instruments in astronomical researches, deciding in favour of the latter. In 1680, he set off on a Continental tour, and at Paris made the acquaintance of Cassini, and, with Cassini, observed the great Comet of that year after its perihelion passage. On his return to England, he married,

and fixed his residence at Islington, where he fitted up an observatory for astronomical researches. In 1684, he made the acquaintance of Newton, and discussed with him the question of gravitation. Halley himself had for some time pursued investigations into this subject, quite independently of Newton. The astronomer at once realised the great importance of Newton's work, and took a leading part in the publication of the *Principia*. In the following years, Halley carried out a series of important investigations on trade-winds and on the magnetism of the earth. His ideas on the latter were so greatly in advance of his time, that it was not until 1811 that they were properly appreciated. In 1705, he published the results of his investigations into the movement of Comets. Appointed astronomer royal at Greenwich, in succession to Flamsteed, he made a study of the motion of the moon, advocated the method of calculating the distance of the sun by measurements of the transit of Venus, and detected inequalities in the motions of Saturn and Jupiter. Halley died at Greenwich, on the 14th of January, 1742. His tomb is in the old graveyard of St. Margaret's Church, Lee, Kent.

It was in the small room upstairs, the room where he studied and experimented, that Newton received his distinguished contemporaries, and held high converse with them. What memorable conversations, what important interviews, they must have been! What "a feast of reason, and a flow of soul"! Oh, that those walls had language! To that room came Joseph Addison, the great Essayist, of whose simple, lucid, delicately pre-

cise and polished style, Dr. Johnson said, "Whoever wishes to attain an English style, familiar but not coarse, and elegant but not ostentatious, must give his days and nights to the volumes of Addison." In the development of the essay, the novel, and of English prose generally, the "Spectator," to which Addison was so great a contributor, played a most important part. Addison also had great conversational powers, and his intimates speak in the strongest terms of the pleasure derived from his society, although it is admitted that he was extremely reserved before strangers. To that room also came Dean Swift who, on his visits to London, took lodgings within walking distance of Newton House. Swift, famous for his "Gulliver's Travels" and his "Tale of a Tub," was one of the most creative and masculine intellects of his age, and, despite his wit and satire, a deep and earnest thinker. Unlike most satirists and wits, Swift is not satisfied in simply making his readers laugh. To excite the emotion of the ludicrous was, with Swift, only a subordinate purpose, a means employed for quite another end. He makes the thing look ridiculous because he hates it, and wishes his readers to hate it. Dean Swift was not the only ecclesiastic to wend his way to Newton House. Thither went the famous Gilbert Burnet, Bishop of Salisbury, and author of "History of My Own Times." Burnet had seen much of the inner wheels and springs of politics, and was fond of talking of himself and of his part in great affairs. His very conceit, and his almost incredible want of tact, makes this "Scotch

dog," as Swift loves to call him, a most entertaining gossip. Although no one would claim that Burnet was a great writer, he was certainly a very industrious and useful author. His "History of the Reformation" is a voluminous and candid work, while his exposition of the Thirty-nine Articles reveals an intimate knowledge of the lines which separated the contending theological systems from one another. From his "History of My Own Times," it is easy to catch glimpses of his genial temper, of his loquaciousness, of his good churchmanship, of his love of affairs, of his bustling self-importance, and of his large-hearted charity.

Another Bishop who delighted to converse with Newton was George Berkeley, Bishop of Cloyne, whose writings were among the most remarkable metaphysical and speculative works which had appeared in England since Locke's Essay on the Human Understanding. His "Theory of Vision," published in 1709, attracted wide attention, as also did his "Principles of Human Knowledge," issued in the following year. This was the work in which, as an idealistic philosopher, Berkeley announced his argument which so annoyed Dr. Johnson. "I tell you matter does exist," he said, and banging his hand heavily on the table, and speaking of Berkeley's argument, added, "I refute it thus." But the best and most delightful of Berkeley's works is the Dialogue, "Alciphron, or the Minute Philosopher," directed against the numerous sceptics and deistical writers of the eighteenth century. Berkeley's character was not less admirable than his works.

Richard Bentley (1662-1742), the celebrated classical scholar, and whose vigorous polemical writing had some effect upon style, was frequently to be seen at Newton House.

Bentley was a clergyman, and Master of Trinity College, Cambridge, which was Newton's own College. In 1726, Bentley published an edition of Terence and Phaedrus, and his notes on the comedies of the former involved him in a dispute with Bishop Hare on the metres of Terence, which provoked the sarcastic remark of Sir Isaac Newton that "two dignified clergymen, instead of minding their duty, had fallen out about a play-book." Other notable visitors to Newton House were Bishop Butler, author of "The Analogy of Religion Natural and Revealed, to the Constitution and Course of Nature"; Dr. Samuel Clarke, famous for his Sermons on the Evidences of Natural and Revealed Religion, in which he expounded his famous *à priori* argument for the existence of God; Sir Christopher Wren, who was as interested in mathematics and astronomy as he was in ecclesiastical architecture; Matthew Prior, the friend of Pope and Swift; John Gay, author of the "Beggar's Opera"; William Congreve, the Dramatist; Sir Hans Sloane, Dr. John Arbuthnot, and Dr. Mead, the three celebrated physicians of the eighteenth century; the Earls of Halifax, Harley, Bathurst and Chesterfield; Lady Betty Germaine, and the Duchess of Queensbury.

It seems that Newton was not the only attraction. He had a very charming niece, Catherine Barton, who kept house for him for sixteen years. She was such a delightful personality

that she was quite a social centre. "Most of the wits of the day flocked thither, not to see the philosopher, and to learn science, but to see the philosopher's charming niece." Miss Barton was the daughter of Robert Barton, Esq., of Brigstock, Northamptonshire, and Hannah Smith, Newton's half-sister. After a brilliant reign as hostess, she married Mr. Conduitt, who, in course of time, succeeded Newton as Master of the Mint. Mr. and Mrs. Conduitt had a daughter, who married Lord Lymington, who inherited his father's title, Earl of Portsmouth. The Portsmouth family are in possession of many valuable relics and documents of Newton.

It is said to have been in the small room upstairs, the room in which Newton held converse with his distinguished visitors, and the room also in which he studied and experimented, that he lost, by fire, the manuscript of his work, "New Theory of Light and Colours." The papers, which represented the work of years, were ignited through the upsetting, by his dog, Diamond, of a lighted taper on his desk. Newton is reported to have merely exclaimed, "O, Diamond, Diamond, little dost thou know the mischief thou hast done!" This incident is often cited as an illustration of Newton's calm and unperturbed manner, but as a matter of fact, his grief at the loss of such valuable material was so great that his mind was for a considerable time very seriously affected.

Newton never married, but he had his love affairs, one associated with his early life, and the other with his later life. When a boy at school, he

conceived a passionate fondness for the beautiful daughter of a local physician. He made dolls and doll furniture for her, and paid court to her in many boyish ways. The girl returned his affection, but Newton's poverty stood in the way of definite engagement. When, in course of time, Newton was in better circumstances, the young lady was already married. Newton quietly accepted the position, and henceforth regarded himself as exclusively wedded to science. But he never visited the home of his childhood without calling to see the object of his youthful love, and when they had both reached four-score years, he had the pleasure of relieving the necessities of her old age.

His second love affair, in which he was again doomed to disappointment, did not occur until he was sixty. Rich and famous as he then was, he made a proposal of marriage to Lady Norris, the widow of an ex-fellow of Trinity, Sir William Norris, Bart. Sir William had been Minister at the Porte, and Ambassador to the Great Mogul at Delhi. We know nothing of Lady Norris, except that she had been twice married before she became Lady Norris. It was a quaint and curious love-letter Newton wrote to her, and the proposal of marriage is somewhat indirect. The letter is interesting as being Sir Isaac's solitary love-letter. It began by remonstrating with her upon her excessive grief for the loss of her husband. "To be always thinking of the dead," he wrote, "is to live a melancholy life among sepulchres." He asks her if she can resolve to spend the rest of her days in grief and sickness, and wear for ever a widow's weeds, a costume "less

acceptable to company," and a constant reminder of her loss. "The proper remedy for all these griefs and mischiefs," he says, "is a new husband," whose estate, added to her own, would enable her to live more at ease. He concluded by saying, "I doubt not but in a little time to have notice of your ladyship's intention to marry; at least, that you will give me leave to discourse with you about it." If Lady Norris replied to the letter, which no doubt she did, her reply has not been preserved; but, as the marriage did not take place, we may infer that the great Sir Isaac had again to figure in the character of a rejected lover.

Towards the end of his life Newton, who was ever a humble religious man, began to devote special attention to theological questions. It was perhaps hardly to be expected that he would achieve the same eminence in theological work as he had done in scientific work. Still, his theological writings, although not particularly impressive, are characterised by the same great learning and acumen which distinguished his scientific work. His first religious publication was entitled "Observations upon the Prophecies of Daniel and the Apocalypse of St. John." This work is supposed to have been written before 1693, but it was not published until 1732. It is a learned and elaborate attempt to show the fulfilment of the Prophecies. Voltaire, who was greatly interested in Newton, considered that in this work Newton had only said what had been already said by other authors, but that was an under-estimate. Newton filled in many gaps in our knowledge, and all subsequent commenta-

tors have been largely indebted to his labours. Newton says, "If I have done anything which may be useful to following writers, I have my design. The folly of interpreters has been to foretell times and things by this Prophecy, as if God designed to make them prophets. By this rashness they have not only exposed themselves, but have brought the Prophecy also into contempt. The design of God when He gave them this and other prophecies of the Old Testament was not to gratify men's curiosity by enabling them to foreknow things, but to the end that after they were fulfilled they might be interpreted by the event, and His Own Providence, not the wisdom and skill of the interpreters, be thus manifested to the world."

"The Chronology of Ancient Kingdoms," although not free from mistakes, was one of Newton's most successful efforts. He told Bishop Pearce that he had spent thirty years at intervals in reading over all the authors, or parts of authors, which could furnish him with materials for his "Chronology," and that he had written the work sixteen times with his own hand. Newton also published two other works, "Lexicon Propheticum," and "Historical Account of two notable Corruptions of Scripture." Apart from the merits of these productions, is there not something grand in the spectacle of a great and distinguished man of science applying to religious questions the same intellectual strength which he had applied, and successfully applied, to so many of the problems of the natural universe? All too often genius has been allied with scepticism, and the union of philosophy with reli-

gion, as we have it in Newton, is a refreshing and stimulating example of a combination which was never meant to be dissolved. From a youth, Newton had been a Christian, and the capture and permanent retention of such a mind represents one of the proudest triumphs of the Christian faith. Not only was Newton a humble and firm believer in the great doctrines of Christianity, but he possessed, in larger measure than most, the Christian spirit. Bishop Burnet, who was never lavish in praise, declared him to be "the whitest soul" he ever knew. His Christian spirit was also seen in his large and tolerant views. He was absolutely free from prejudice, and allowed others the same liberty of view which he claimed for himself. However widely their opinions differed from his own, he never judged them harshly or uncharitably. The persecution of people on the ground of their religious opinions was abhorrent to him. But although tolerant, he was not lax, and any irreverent or impious remark would be immediately rebuked. In his undergraduate days, he had broken off a valuable friendship because his friend had told him an indecent story. He would have no fellowship with works of darkness, and always reprov'd them. The astronomer, Dr. Halley, once ventured to speak disrespectfully of religion, but Newton at once checked him with the remark, "I have studied these things; you have not." His Christian spirit found expression also in his benevolence. There seemed scarcely any limit to his generosity. He placed little value on money, except as it enabled him to help the poor, assist his friends, and encourage

various branches of learning. And all his gifts were bestowed without the least ostentation or display.

One of Newton's most marked characteristics and excellencies was his humility. It was sincere and profound. He never boasted of his discoveries, and it was only under great pressure from his friends that he consented to make them public. His excessive modesty, as shown by permitting long intervals to elapse between his discoveries and their publication, was responsible for many protracted controversies and disputes in some cases as to priority of discovery. No better illustration of his humility can be given than the famous words he uttered before his decease: "I do not know how I may appear to the world, but to myself, I seem to have been only like a boy playing on the sea-shore, now and then finding a smoother pebble or a prettier shell than before, while the great ocean of Truth lay all undiscovered before me." Newton was pre-eminently fitted for investigations demanding severe concentration and sustained application. He was a born scientist. He had the scientific temperament and the scientific temper. Calm and philosophic in manner, abounding in industry and patience, free from all bias, eager only for the truth, he possessed all the qualities which go to the making of the scientist. Buffon, who placed Newton above all philosophers, and so intensely admired him that he always had his portrait before him while he sat at work, said "Genius is patience." Newton's patience was extraordinary. He ascribed his success in interpreting Nature almost entirely to his patience. Asked one

day how he had discovered the law of gravitation, he replied, "By incessantly thinking about it." His great powers of abstraction were responsible for many diverting instances of "absence of mind." It was no uncommon thing for him on getting out of bed in the morning to sit on the bedside for hours, without dressing himself, utterly absorbed in thought. Sometimes he would go into the street half-dressed, and on discovering his condition, run back in great haste, much abashed. Often while strolling in his garden, he would suddenly stop and then rush rapidly to his room, and begin to write on the first piece of paper that presented itself.

He once dismounted from his horse to lead him up a hill. The horse managed to slip his head out of the bridle, but Newton, oblivious, failed to notice it, till, on reaching a toll-gate at the top of the hill, he turned to remount, and then perceived that the bridle which he held in his hand had no horse attached to it. He would frequently leave his dinner, untasted, on the table, hour after hour, while he brooded over some abstract problem, and ultimately order the dishes to be removed, not being aware that he had had no dinner. This forgetfulness of his dinner was an excellent thing for his old housekeeper, who often found "both dinner and supper scarcely tasted of, which the old woman has very pleasantly and mumpingly gone away with." On one occasion, when giving a dinner to some friends, he left the table to get them a bottle of wine; but on his way to the cellar he fell into deep reflection, forgot his errand and his company, to which he did not return.

Intending, on another occasion, to dine at the Public Hall, he started out in a very reflective mood, took the wrong road, walked aimlessly about for a while, and then returned to his room, having entirely forgotten the public dinner.

Then there is the interesting story of a Dr. Stukely, who came to meet Newton by appointment. Newton was in his study at the time of his visitor's arrival. Dr. Stukely waited for him in the dining-room, but in vain. As it was dinner-time, the housekeeper brought in a chicken, meant for Newton and his guest. As Sir Isaac did not appear, Dr. Stukely demolished the chicken himself, and requested the servant to cook another for her master. But before the chicken was ready, Newton appeared, and apologised for his delay, remarking as he sat down at the table, "I shall be at your service after dinner." He then lifted up the dish-cover, and seeing that there was no chicken, turned to his visitor and said, pleasantly, "See what we studious people are! I forgot that I had dined"!

Many other anecdotes are associated with Newton, but some of them must be accepted *cum grano salis*, and some must be wholly discredited. There is the story, for instance, that in his absent-mindedness, he once took his wife's finger to press down the lighted tobacco in his pipe. The two fatal objections to the story are, first, as we have seen, he never had a wife, and, secondly, that he never smoked, for when urged to do so by his friends, his invariable reply was, "I never make to myself necessities."

When once a few anecdotes gather around a famous man, it is the easiest

thing in the world to take stories of eccentricity or of absence of mind that belong to others, and ascribe them to him. But this anecdote can be vouched for:—When Newton went to live in Leicester-Fields, his next-door neighbour was a widow, who was much perplexed by the little she had observed of the philosopher. One of the Fellows of the Royal Society called upon her one day, when, among other domestic news, she mentioned that someone had come to live in the adjoining house who she felt certain was a poor crazy gentleman, “because,” she continued, “he diverts himself in the oddest ways imaginable. Every morning when the sun shines so brightly that we are obliged to draw the window-blinds, he takes his seat in front of a tub of soap-suds, and occupies himself for hours blowing soap-bubbles through a common clay-pipe, and intently watching them till they burst. He is doubtless now at his favourite amusement; do come and look at him.”

The gentleman smiled, and then went upstairs, when, after looking through the window into the adjoining yard, he turned round and said, “My dear madam, the person whom you suppose to be a poor lunatic is no other than the great Sir Isaac Newton, studying the refraction of light upon thin plates, a phenomenon which is beautifully exhibited upon the surface of a common soap-bubble.

Newton’s countenance was rather calm than expressive, and his manner somewhat languid. Until 1722 when he was in his eightieth year, his health was good. In that year the first symptoms of calculus disorder appeared, but by careful atten-

tion to diet and other precautions, he was enabled to alleviate the complaint, and to secure long intervals of ease. But on February 28th, 1727, when on his way to preside at a meeting of the Royal Society, serious symptoms appeared. After a fortnight's rest and attention, he seemed considerably better. On Saturday morning, March 18th, he read the newspapers, and carried on a fairly long conversation with Dr. Mead; but at six o'clock the same evening, he became unconscious, and remained in that condition until Monday, the 20th, when, between one and two o'clock in the morning, the end came, painlessly and peacefully. He was in his eighty-fifth year.

The death of so great a man, a man who had enjoyed the rare felicity of seeing two generations of his fellow-men reaping the fruits of his illustrious genius, created a profound sensation at home and abroad.

In Paris, the most distinguished scientists and philosophers of whom the world could boast, were called together to hear a eulogy from Fontenelle on the services of the great interpreter, who had thus, in the maturity of age, been permitted to draw nearer to the awful Source of those Laws of Nature which he had so long and so successfully expounded for the instruction of mankind.

The orator was warmed by his theme and his auditory, and anxious to illustrate by his eloquence the splendid discoveries of Newton's early manhood, he passed over his juvenile years with the happy comment that "one may apply to Newton what Lucan says of the Nile, that it has not been permitted to mortals to

see that river in a feeble state." On Monday, March 28th, 1727, Newton was buried in Westminster Abbey. The body had previously lain in state in Jerusalem Chamber. The funeral was grand and impressive. The coffin was carried by the Lord High Chancellor, the Duke of Montrose, the Duke of Roxburghe, the Earl of Pembroke, the Earl of Sussex, and the Earl of Macclesfield, all of whom were Fellows of the Royal Society. Voltaire was among the host of distinguished men present at the funeral. Of all the names which adorn Westminster Abbey, that great shrine of the illustrious dead, whether of kings, statesmen, heroes, poets, or philosophers, no name stands higher, or is held in greater esteem and reverence, than that of Newton. His grave is near the entrance to the Choir on the left side. The monument, one of the noblest and most symbolical in the Abbey, occupies a space which had been refused many times to some of England's greatest noblemen. Newton is represented in a recumbent position, his elbow resting upon his books. Four youths are in front, holding in their hands emblems of Newton's principal discoveries. One carries a prism, another a reflecting telescope, a third with an instrument is weighing the sun and the planets, and the fourth is employed about a furnace. Newton was Warden of the Mint, and as representing that part of his work, two youths are seen loaded with money which had been newly-coined. There are also two other youths, who hold a scroll on which there is a diagram of the solar system. From the middle of a pyramid, surmounted with

a star, rises a globe, upon which, with a sceptre in her hands, and weeping, sits a figure of Astronomy, as Queen of the Sciences. On the globe itself are drawn such of the constellations as serve to show the path of the comet of 1681, whose period Newton had determined. The inscription on this wonderful monument is as noble as the monument itself. It is in Latin, of which the following is an accurate translation: "Here lies Sir Isaac Newton, who by a vigorous mind, almost supernatural, first demonstrated the Motions of the Planets, the Path of the Comets, and the Tides of the Ocean. He diligently investigated the different refrangibilities of the Rays of Light, and the properties of the Colours to which they give rise. An assiduous, sagacious, and faithful interpreter of Nature, Antiquity, and the Holy Scriptures. He asserted in his philosophy the Majesty of God, and exhibited in his conduct the simplicity of the Gospel. Let mortals rejoice that there has existed such and so great an ornament of human nature."

Newton was fortunate in the era in which he lived. Had he lived in an earlier period, his intellect would not have had the wide fields in which to expatiate, or the soil in which to grow. The spirit of the age gave the right direction to his genius. That particular period was remarkable for scientific achievement and the number of scientific men. England, which in Art was far behind other countries, ran quickly ahead of them in scientific discovery and attainment. The spirit of inquiry, the love of investigation, was intense. Nature, in all her kingdoms was diligently ex-

plored. Among the great names in Science were those of Boyle, associated with chemical discoveries; Sloane, with botanical researches; Woodward, with natural history (fossils and shells); Ray, also with natural history (birds and fishes); Wallis, with mathematics; Halley, with astronomy; Flamstead, the first Astronomer Royal, and many others. "But the glory of these men," says Macaulay, "eminent as they were, is cast into the shade by the transcendent lustre of one immortal name. In Isaac Newton two kinds of intellectual power, which have little in common, and which are not often found together in a very high degree of vigour, but which, nevertheless, are equally necessary in the most sublime departments of physics, were united as they have never been united before or since. There may have been minds as happily constituted as his for the cultivation of pure mathematical science; there may have been minds as happily constituted for the cultivation of science purely experimental; but in no other mind have the demonstrative faculty and the inductive faculty co-existed in such supreme excellence and perfect harmony."

A mind like that of Newton was precisely the type of mind that was required in an age when the searchlight was being vigorously thrown upon almost every conceivable subject and object. What was needed was a mind that could collect all the information that was being brought to light in the various branches of science, and so to philosophise on these data as to combine the various elements of knowledge into one master-thought, or, in other words, to hit upon a

great discovery or invention.

Newton's mind was peculiarly adapted for this. It is beyond question that others were on the track of many of his most important discoveries, but either his mind moved more rapidly, or his inductive powers were greater than those of his contemporaries. He evidently possessed that little "extra" which as truly differentiates one man of genius from another as it does the man of genius from the ordinary man. Not only did Newton's mind arrive first at the goal, but the truths he established were, for the most part, so fully and finally established, that they have not been superseded. The work of a discoverer or an inventor is often superseded by some later discovery or invention, but Newton has left posterity no chance to eclipse his fame. Says Lagrange, the French mathematician: "Newton was not only the greatest philosophical genius that ever existed, but also the most fortunate, for we cannot find more than once a system of the world to establish."

In the opinion of Sir James Mackintosh, "Shakespeare, Milton, Locke, and Newton are four names superior to any that the Continent can put against them." Dr. Johnson considered it "as an eminent instance of Newton's superiority to the rest of mankind that he was able to separate knowledge from those weaknesses by which knowledge is generally disgraced; that he was able to excel in science and wisdom without purchasing them by the neglect of little things; and that he stood alone merely because he left the rest of mankind behind him, not because he deviated from the beaten track." "He was an

Ornament of Human Nature," his inscription says. That is very high praise. No higher praise could be given. Yet it is praise to which we can all aspire, for one great and delightful thing about Sir Isaac Newton is that so many of the qualities in him that excite our admiration and win our esteem, are qualities which even the humblest of us may, in some measure, possess. In the vast reach and power of his intellectual feats and discoveries we may be unable to follow or imitate him, but in the simplicity and beauty of his character, in his pursuit of knowledge, in his love of truth, in his honesty, sincerity and candour, and in all the other noble elements of his character, we may all imitate him.

"Let mortals rejoice that there has existed such and so great an Ornament of Human Nature."

In addition to the fine monument in Westminster Abbey on which these words are inscribed, there is a magnificent statue of Newton in white marble in the Chapel of Trinity College, Cambridge. He is represented standing on a pedestal in a loose gown, holding a prism, and looking upwards with an expression of the deepest thought. On the pedestal is the inscription: "Who surpassed all men of genius." That is a great thing to say, although perhaps it is not greater than what Dr. Halley said of Newton: "So near to the gods—man cannot nearer go!" The statue has been thus described by a poet:—

"Hark where the organ, full and clear,

With loud hosannahs charms the ear;

Behold a prism within his hands,
 Absorbed in thought great New-
 ton stands;

Such was his brow and looks
 serene,

His serious gait and musing mien,
 When taught on eagle wings to
 fly,

He traced the wonders of the sky;
 The chambers of the sun explored,
 Where tints of thousand hues
 were stored."

In addition to the statue, there is a stained-glass window, in which the great philosopher is represented as being presented to His Majesty the King, who is seated under a canopy with a laurel chaplet in his hand, and attended by the goddess Minerva, who is advising him to reward Newton for his intellectual merit.

In the autumn of 1774, nearly half a century after Newton, Dr. Charles Burney, the musician, came to Newton House. He brought with him his three clever daughters, the leading spirit being the versatile Fanny, who was the wonder and delight of her many friends from Royalty downwards, and the most popular novelist of the day. The Burneys were tenants for twenty years. Dr. Burney, while his main interest was in his profession, was a man of good general culture, and decided intellectual tastes. He had a weakness—if weakness it can be called—for the society of great and distinguished people, and the very names of the great appealed to him. In the selection of Newton House as a residence Dr. Burney was probably more influenced by the fact that Newton, of whose character and genius he was

ever a great admirer, had lived there than by any other consideration. It was a constant source of inspiration to him to occupy the same rooms which Newton had occupied. He was particularly proud of the Observatory, which he took pains to carefully preserve. In Fanny Burney's "Diary" Anthony Chamier, who was descended from a famous Huguenot family, is said to have been very curious to know which was the room Newton used as a study, "and asked me whether it was not our library." "No, no," said I, "this is quite superb to the study; you never saw such a scene of confusion as that is!" He also asked Fanny very seriously if she did not think that her father's real motive for coming to Newton House was that it had been Sir Isaac's. Chamier, who was a favourite with the Burneys, was a well-educated man, and, what was uncommon in those days, was a good Spanish scholar. He was M.P. for Tamworth, Deputy-Secretary for War, and Under-Secretary of State to Lord Weymouth and to Lord Hillsborough. He figures in Boswell's Life of Johnson. Dr. Burney kept "open house," and again Newton House became the rendezvous of great people—literary, musical, artistic, political, scientific. It is scarcely possible to mention any distinguished man of the period who did not wend his way to Newton House. David Garrick was a frequent and most welcome visitor. So also was Sir Joshua Reynolds, whose house was also in Leicester Fields. Dr. Johnson was an occasional visitor, and it is not difficult to imagine him toiling up the wide oak stairs, and leaning

heavily on the banisters. It was there that he gave that resounding kiss to Fanny Burney's pretty cousin—"not a half touch or courtly salute, but a real, substantial, very loud kiss, so that everybody was obliged to stroke their chins to hide their smiles." A note of Johnson's, dated Bolt Court, November 17th, 1784, says—"Mr. Johnson, who came home last night, sends his respects to dear Dr. Burney and to all the dear Burneys, little and great." Johnson was warmly attached to the Burneys. "I love all that breed whom I can be said to know," he wrote, "and one or two whom I hardly know, I love upon credit, and love them because they love each other." The Burneys, on their side, were equally attached to Johnson. To Fanny especially the great man was an object of intense admiration and affection. It was quite the customary thing for Continental musicians who wished to make their *debut* in London to first call at Newton House and furnish Dr. Burney with some evidence of their powers. If they could only secure his approval, and especially his praise, they felt that they would have nothing to fear. Among those who called upon Dr. Burney in this way was the great Italian singer Pacchieroti. He was a great favourite with the three sisters. He also delighted in their company, and on all his visits to London he made a special point of renewing his acquaintance with the Burneys. He would frequently call to take tea, and to sing, as he alone could. Pacchieroti's broken English delighted Fanny and her sisters. On one of his visits he said: "All, all! very

clever girls! Sense and witta inhabit here. Sensibility has taken up its abode in this house. A'l I meet with at Dr. Burney's house are superior to other people. I am myself the only Bestia that enters the house. I am indeed, a truly Beast!" All he meant was that he felt himself to be a stupid person among so many who were clever. One day, Fanny's aunt came to Newton House to tea, "in hopes that she would *meet with no foreigner*, as I had told her that we had seen Merlin, Piozzi, and Baretti, all so lately. However, our tea things were not removed, when we were alarmed by a rap at our door, and who should enter but that prince of singers, Pacchieroti, and his treasurer, Bertoni. I leave you to guess who was charmed, and who looked blank. They stayed with us full three hours." Pacchieroti had a grievance against R. B. Sheridan, who had failed to pay him for an appearance he had made at the opera. Sheridan was notorious for his neglect to pay the salaries of actors and singers whom he engaged. Pacchieroti wrote in Newton House an angry letter to Sheridan, "the object of my particular despise." The letter concluded with a sketch of Sheridan dangling from a gallows. It was only Susan Burney's earnest persuasion that stopped him from sending that letter. Dr. Burney, with the assistance of his daughter Hettie, who was a gifted player on the harpsichord, frequently gave concerts at Newton House, and very interesting and charming occasions these concerts proved to be. A few intimate friends were invited, together with people well known in

Society, and in public life. Distinguished foreigners visiting London, and who were the talk of the town, were also invited. Signora Agujari, a famous Italian singer, La Gabrielli, also a great vocalist, Prince Orloff of Russia, a giant in stature and with his breast emblazoned by massive diamonds, together with many other Continental notabilities, appeared in Dr. Burney's drawing room. Mrs. Thrale, wife of the wealthy Streatham brewer, and patroness and friend of Johnson, was present on one of these musical evenings, as also was Johnson himself. Piozzi was at the piano, and Mrs. Thrale, who had no appreciation of music, stood behind him and mimicked his movements to the suppressed merriment of the company. She little imagined that the time would come when she would be the wife of that particular musician. To the astonishment of all her friends and the indignation of many, on the death of Mr. Thrale, she became Mrs. Piozzi. At one of Dr. Burney's parties there were present, in addition to several dignitaries of the Church, Lord Mulgrave, Lord Bruce, Lord and Lady Edgcombe, Lord Barrington (from the War Office), Lord Sandwich (from the Admiralty), Lord Ashburnham, and the French and Russian Ambassadors. Coroneted coaches blocked up St. Martin's Street.

The voluminous reminiscences of the period afford us a glimpse of the delightful hours which must have been spent in Dr. Burney's famous salon. It is remarkable that a man of Dr. Burney's social position, living in a modest house, and with only a small professional income, should

have gathered around him such a host of great people. No man of the time was brought into contact with so many distinguished people in all walks of life as was Dr. Burney.

The three sisters, Hetty, Fanny and Susan, were always present at these receptions and private parties, but, with the exception of Hetty, who inherited her father's musical tastes, were there to be seen and not heard. Fanny, fragile in appearance, gentle and timid in manner, had no musical gifts, and was much too shy to engage in conversation, especially with such great folk. But she was very observant, and the various characters she saw, from the truly great man to the mere society fop, made lasting impressions on her quick active mind.

For some of the characters she met she had little or no respect, either because of their pompous manner and vanity, or the shallowness of their conversation, but for others she had unbounded admiration. It was this unique and unparalleled opportunity to mingle with so many great and famous people, as well as with people who were neither great nor famous, which constituted the best and most valuable part of Fanny's education, and laid the foundation of her career as a novelist. When she came to write novels, she had not to create or imagine characters, but simply to portray characters whom she had actually met. It is not difficult to identify certain characters in her novels with individuals whose acquaintance she had made in the world of great people, and the literary, musical and artistic coterie which assembled in her father's drawing room. Fanny's early education had

been singularly neglected. She was ten before she could read, but the power to read was soon accompanied with the love of books, and she was permitted to browse in her father's large and miscellaneous library. It was strange that a man of Dr. Burney's attainments should have shown such indifference to Fanny's education, and have been so engrossed with his professional duties, with authorship, and with social engagements, that he could not find time for the training of a mind of unusual power, which would have been so responsive to instruction. And the wonder is increased when we remember that Fanny was her father's idol, and that he must have known how essential a good education would be to her as a girl likely to move in influential circles and to mingle with the intellectually great and famous. His musical pupils were so numerous that he was kept incessantly busy, "passing from scholar to scholar, and dining in his coach on the road." Fanny was, however, taught to write by one of his sisters, and her writing propensities and gifts soon began to show themselves. Her mother—for Dr. Burney had married again—strongly lectured her upon her scribbling propensities, which she regarded as pernicious, and Fanny for a time, gave up the habit. She burned her manuscripts, and took to needlework. But her love of the pen soon reasserted itself, and more powerfully than before. Surreptitiously for the most part, she spent much of her spare time in writing, and members of the family did not know the definite work on which she was engaged. That work was a

novel entitled "Evelina, or a Young Lady's Entrance into the World." In 1778 it was ready for publication. The circumstances attending its publication were somewhat similar to those which in a later generation attended the publication of "Jane Eyre." "Evelina" was published anonymously, the name of the writer being withheld even from the publisher. Fanny's joy amounted to ecstasy when she received the news that her manuscript was accepted, and that she was to receive £30 for it. The success of the book was extraordinary, and was as immediate as it was immense. As in the case of "Jane Eyre," speculation was everywhere rife as to the author. All kinds of guesses were made, and the book was attributed to some of the greatest names of the period. The reviews were of the most eulogistic description, and it was clear that a new star had arisen in the literary firmament. When it became known—for the secret could not be long kept—that the author was neither a famous man nor a famous woman, but a young girl, "a modest shrinking little body," the admiration and the wonder grew. Fanny found herself famous, and stepped at once into a foremost place in the literary world of the day. It introduced her to brilliant society as well as to the fuller notice of Dr. Johnson, Burke, Reynolds, Gibbon, Sheridan, and many others, all of whom eulogised her work. She had known something of the Johnson set before the issue of "Evelina," but now she secured introduction to Mrs. Thrale, and a host of notable people. Dr. Burney, his wife, and family were

almost overcome with joy at the literary success of their daughter. Johnson was so charmed with "Evelina" that he "got it almost by heart, and mimicked the characters with roars of laughter." Sir Joshua Reynolds took it up at table, and became so absorbed in it that he had to be fed with a spoon while reading, and both he and Burke sat up over it all night.

It should be remembered that novels were very lightly esteemed in those days. Such novels as existed were, with few exceptions, either extremely silly or very coarse, and there was little demand for them. It was a discreditable thing to be seen reading a novel, and still more discreditable to write one. This state of opinion with regard to the novel was probably largely responsible for the secrecy which Miss Burney observed as to the publication of her book. Lord Macaulay says of "Evelina": "It was the first tale written by a woman and purporting to be a picture of life and manners, that lived or deserved to live. It took away reproach from the novel."

The enormous success of "Evelina" encouraged Fanny to make another attempt, and she was, indeed, urged to do so by a host of friends and acquaintances. Her second novel — published four-and-a-half years after the appearance of "Evelina," and for which she received two thousand guineas from her publisher was entitled "Cecilia," or "Memoirs of an Heiress." It was a larger book than its predecessor, and altogether more ambitious and complex, and was regarded by Miss Burney's contemporaries as splen-

didly fulfilling the promise of her first novel. No book of the day was more discussed or more admired. Among her many eulogists upon this effort was Burke, who wrote: "In any age distinguished by having produced extraordinary women, I hardly dare to tell you where my opinion would place you among women." The pompous and somewhat elaborate style observable in certain passages in "Cecilia" led to the rumour that she had been assisted by the great Johnson. Johnson's influence over Miss Burney was undoubtedly great, and had been steadily increasing—she was his pet and he was to her the greatest of the great, and it is possible that, consciously or unconsciously, she had imitated his style, but "Cecilia" was entirely her own creation. The success of "Cecilia," a success as great as that of "Evelina," firmly established her reputation. A new and unexpected development now took place in Miss Burney's life. Through the society to which her father's fame, together with her own, had introduced her, she was offered the position of Second Keeper of the Robes of the Queen, and under her father's advice, and at his earnest request, she accepted it. This was in July, 1786, and for five years she held the position, to which a good, though not great, salary was attached. But the duties were distasteful to her. There was no scope for her mental powers and she was very unhappy. Her health began to suffer, and was in fact nearly ruined. Much to the sorrow and disappointment of her father, who had regarded his daughter's position in the Royal Household with pride, and as a great

acknowledgment of her merit and of his own, she resigned. Uncongenial as the duties were, she appears to have faithfully discharged them, and her resignation was accepted by the Queen with deep regret and astonishment. A pension of £200 per year was granted to her. Two years after her retirement from the Royal Household, Miss Burney, who had rejected several suitors, married General D'Arblay, a French émigré. Miss Burney was forty-one, and her husband, who appears to have been a kind and most estimable man, "a Chevalier by character as well as by birth and by the Order of St. Louis," was of nearly the same age. He was poor, his pay as an officer of the French Army having been stopped, and his property seized and sold by the Convention in France. Madame D'Arblay had her pension. General D'Arblay's military career was somewhat distinguished. He had served in the French Artillery from thirteen years of age. The regiment to which he belonged was in the command of the Comte de Narbonne, who for a short time was War Minister to Louis XVI. General D'Arblay served on the War Committee, was Adjutant-General to La Fayette, and Commander of Longwy. He was a Knight of St. Louis, of the Legion of Honour, and of the Legion of Fidelity—a Bourbon Order. Madame D'Arblay's married life was very happy. For ten years she resided in France, and her husband was restored to his rank. There was one child of the marriage—Alexander—and it was possibly with the education of this child in view that, in 1796, she produced a third novel, "Camilla." For

this she received three thousand guineas, but "Camilla" did not add much to her fame. Still less did "The Wanderer," published in 1814. Although her later works were inferior to her earlier ones, there can be no doubt that as a novelist, Fanny Burney is at least the equal, if not the superior, of Fielding, Smollett, and Richardson, the great novelists of the 18th Century. Her novels are all in good taste. There is not much passion—all her love scenes are prosaic—but there is plenty of good sense and correct feeling. Her power lies—and in this she has rarely been equalled—in the vivid and faithful portrayal of the manners of the period. She is at her best in painting the characters in a drawing room, "showing up" a party of vulgarly genteel persons, and in depicting the follies and absurdities that float on the surface of fashionable society. Her delicious drollery, rich humour, fine sarcasm and scorn are manifest on every page. Society has greatly changed since her day, and the glory of certain fashionable centres she describes, such as Marylebone Gardens and Ranelagh, has long since departed, but there is so much to amuse, interest and instruct the reader that the permanence of her work is secured. Madame D'Arblay herself lived long enough to know the judgment passed upon her work by two generations. The fame of some authors is entirely posthumous, and others do not live sufficiently long to know whether their productions are ephemeral or permanent, but Madame D'Arblay, by writing early in life, and then living on to a very advanced age, had

the exceptional experience of knowing the verdict passed by posterity on her work. That verdict was far from an unfavourable one. In her old age Madame D'Arblay published "*Memoirs of Dr. Burney*," but the book was not a success. Not only were there many inaccuracies due to the fact that she relied largely upon her memory, which age had naturally impaired, but the style was much inferior to that of her earlier years, and was probably influenced by her years of residence in France. Madame D'Arblay outlived both her husband and her son. The former died in 1813, and the latter in 1837. The death of her son, especially, was a great sorrow, from which she never recovered. His life was full of high promise. Born at Bookham in 1794, Alexander D'Arblay obtained the Tancerd Scholarship in 1813, was tenth Wrangler in 1813, and became Fellow of Christ's College, Cambridge. He took Orders, and in 1836, the year before his death, was appointed Incumbent of Ely Chapel, Holborn.

Madame D'Arblay outlived her son three years, dying in London on January 6th, 1840—a day she had specially kept for forty years in memory of her beloved sister Susan, who had died on January 6th, 1800. She was buried in the church yard of Walcot, near Bath, by the side of her husband and of their dear and only son. Two years after Madame D'Arblay's death, her "*Diary and Letters*" were issued, and added so greatly to her fame that her reputation now rests as much upon that work as upon her novels. Not only are the "*Diary and Letters*," exceptionally interesting and entertainieg,

but they are invaluable for the light they throw on the leading figures of Dr. Johnson's set, on the French émigrés, and on the Court of George III.

Although much of the work is taken up with unimportant details and private gossip, its clever sketches of Society and Court manners, the anecdotes of Johnson, Burke, Reynolds, and others, and its high literary merit, combine to constitute it a memorable work, and give to its author a permanent and distinguished position in the literary annals of her country. In the opinion of Sir Leslie Stephen, "the description of Mrs. Thrale, Johnson, and Boswell himself rival Boswell's own work, and the author herself with her insatiable delight in compliments—certainly such as might well turn her head—her quick observation, her lively garrulity, her effusion of sentiment, rather lively than deep, but never insincere, her vehement prejudices corrected by flashes of humour, is always interesting." It was from Fanny Burney's pen that the public first learnt "how gentle and enduring Johnson's deportment could be." "Why did not Sir Joshua Reynolds paint Dr. Johnson when he was speaking to you?" asked a mutual friend of Fanny one day. Had Sir Joshua Reynolds done so, Dr. Johnson's countenance would have appeared much more gentle and benignant. It is easy to understand how Johnson found balm for his irritable nerves in intercourse with his gentle young friend, and that even her silence—for she was often silent—was restful to him. Her society was immensely congenial to Johnson. It had in it, he says, "every engaging

expression of modesty, and of intelligent observation." It was to Johnson's friendship with the Burneys that we owe many charming passages in the "Diary" of his "talk," and get glimpses of his geniality which were not seen, or at least not so fully seen, by either Boswell or Mrs. Thrale. "Madam," said Boswell to Fanny Burney, "you must give me some of your choice little notes of the Doctor's; we have seen him long enough upon stilts. I want to show him in a new light. Grave Sam, and great Sam, and solemn Sam, and learned Sam, all these he has appeared over and over. Now I want to entwine a wreath of the Graces across his brow; I want to show him as gay Sam, agreeable Sam, pleasant Sam."

Fanny Burney's two brothers, James and Charles, greatly distinguished themselves, though in widely different ways. James Burney was a typical son of the sea, with all the finest qualities of the British sailor. Charles, who was named after his father and was a little younger than James, developed into one of the greatest classical scholars of his time, but with no interest outside his classical studies. The contrast between the brothers was remarkable. In June, 1804, the poet Southey who knew both brothers well, tells Coleridge of a dinner which had been held at Mr. Sotheby's where he had met some "lions," among whom, he says, was Dr. Charles Burney, the younger, who, after a long silence broke out into discourse upon the properties of the conjunction 'quam.' Except his quamical knowledge which is as profound as you will imagine, he knows nothing except biblio-

graphy, or the science of title pages, impresses and dates. It was a relief to leave him, and find his brother, Captain Burney, at Rickman's, smoking after supper, and letting out puffs at one corner of his mouth, and puns at the other." Southey and Captain Burney had a common friend in Mr. Rickman, who was secretary to the Speaker of the House of Commons.

James Burney went to sea at ten years of age. The little education he had was given him by Eugene Aram, who was hanged at York in 1759, for a murder committed fourteen years before. Hood's poem, "The Dream of Eugene Aram," was founded upon Captain Burney's recollections of how the gentle usher paced the playground at Lynn, arm-in-arm with one of the boys, talking of strange murders, and how he himself had shuddered on seeing Aram taken to prison with "gyves" or handcuffs on his wrist. Captain Burney endured many hardships, and engaged in many naval battles. His life was full of adventure. He was associated with Captain Cook at the time when Cook met his untimely death, and took some share in the compilation of the Narrative of Cook's Voyages. When on land, Rear-Admiral Burney, for that is what he ultimately became, had a delightful life—in youth with Johnson and the Club; in age with Charles Lamb, Tom Hood, William Hazlitt, Southey, Wordsworth, and Coleridge. It was to Wordsworth that Lamb wrote in 1822: "Every departure destroys a class of sympathies. There's Captain Burney gone! What fun has Whist now? What matters it what you lead if you can no longer fancy him looking over

you? " Captain Burney had written a book on Whist, which went through several editions. He died in 1821. H. Crabb Robinson wrote: " He was a fine old man, a humorous old man—a character, a fine, noble creature, with a rough exterior, as became the associate of Captain Cook."

It is interesting to read what Fanny Burney thought of her brother James. Writing under date, December 20th, 1769, she says: " My dear brother has now been home these three weeks, and my beloved father daily appears more and more kind and affectionate to this dear brother, and we are now all happily settled. James's character appears the same as ever—honest, generous, sensible, unpolished; always unwilling to take offence, yet always eager to resent it; very careless, and possessed of an uncommon share of good nature; full of humour, mirth and jollity; ever delighted at mirth in others, and happy in a peculiar talent of propagating it himself. His heart is full of affection for us.—I sincerely believe he would perform the most difficult task which could possibly be imposed on him, to do us service. In short, he is a most worthy, deserving creature, and we are extremely happy in his company, though he complains that we use him very ill, in making engagements in which he cannot join from ignorance of the parties, but 'twas unavoidable, Fate and Necessity."

Charles Burney, D.D., the second son of Dr. Burney, was born in 1757 at King's Lynn, and received his education at Charterhouse School, and the Universities of Cambridge and Aberdeen. He was for some time engaged in an Academy at High-

gate, and afterwards became assistant to Dr. Rose, the translator of Sallust at Chiswick, whose daughter, he married in 1783. From 1783 to 1800, he contributed numerous classical articles to the *Monthly Review*, of which Dr. Rose was the editor. His dissertations in the *Review* on Porson's *Hecuba*, and Wakefield's *Diatribes* were enthusiastically praised by the most eminent of Greek scholars of the day. In 1786, Dr. Burney opened a school of his own at Hammersmith. Here he amassed considerable wealth, and remained till 1793, when he established a school at Greenwich. In 1813, he resigned in favour of his son, the Rev. Charles Parr Burney, afterwards known as an author. Dr. Burney took orders late in life, and was appointed Rector of Cliffe in Kent, and of St. Paul's Deptford, while carrying on his school at Greenwich. He was also appointed chaplain to the King, and shared his father's and his sister's intimacy with the Court. The Prince Regent accepted from him his father's bust, and remarked that it was curious for the father to be the best judge of music, and the son the best Greek critic of the Kingdom. He died of apoplexy at Deptford, on December 28th, 1817. Dr. Burney published an Appendix to Scapula's Greek Lexicon from the MSS. of Dr. Askeu; a valuable edition of the Choral Odes of Æschylus, the Greek tragedian; the Greek Lexicon of Philemon; Remarks on the Greek verses of Milton—a criticism which establishes that Dr. Johnston said of Milton's Latin, that they are not secure against a stern grammarian;

an Abridgment of Pearson's Exposition of the Creed; a sermon preached at St. Paul's, and for private circulation, a small impression of the Latin Epistles of Dr. Bentley and other learned scholars. Burney's classical writings, however, were not equal to the reputation he enjoyed in his own day, when it was usual to class him with Porson, the great Greek scholar and with Parr, as forming the three greatest English representatives of Greek Scholarship. The latter years of Dr. Burney's life were devoted to the accumulation of his vast, and from its systematic completeness, most valuable library. On his death, his representatives, to prevent the dispersal of these treasures, and to provide for his family, suggested to Parliament that the whole should be purchased for the benefit of the nation. A Committee recommended the purchase at £14,000. After a spirited debate in the House of Commons, in which Sir James Mackintosh declared that the restoration of a single passage in Demosthenes was alone worth the sum in the eyes of a free nation, it was agreed to purchase for £13,500, and the Collection to be deposited in the British Museum. Its contents were thus classified by the Committee of the House of Commons appointed to report on it:—(1) The printed books numbered from 13,000 to 14,000, and consisted mostly of classical editions bought by Burney at sales, beginning with that of the Pinelli collection. The margins are covered with notes in Burney's hand, in addition to those by Bentley, Markland, Stephanus, and others. The volumes were so arranged that

the state of the classical texts could be seen from their first known production to their latest change. The editions of the leading classics, especially the Greek Tragedians, exceed in number those in the British Museum before the accession of the former. (2) The Manuscripts included the Townley Homer, considered to be of the 13th century, and valued by the commissioners at £1,000; and the Manuscripts of the Greek Orators, assigned respectively to the 13th and 15th centuries. (3) A collection of newspapers from 1603. (4) A collection of from 300 to 400 volumes in quarto, containing materials for a history of the Stage. (5) Theatrical prints from the time of Queen Elizabeth. There were other members of the Burney family who possessed very considerable talent in various ways, but sufficient has been said to show that the Burneys constituted one of the most distinguished families of the 18th century. In the social and intellectual life of that period they played a very conspicuous part, and they played it pleasantly and well. Of Dr. Charles Burney, the father of these gifted sons and daughters, Sir William Jones said—and it is a commendation of which any man may be proud: “Dr. Burney gave dignity to the character of the modern musician, by joining to it that of the scholar and philosopher.” In all the relations of life, Dr. Burney was most exemplary. His manners had all the graces of the Chesterfield school without any of its formality, or vicious alloy of moral and religious laxity. As a musician, too, and especially as

a composer, his merits and claims are unquestionably high.

It will be seen from these pages that Newton House, with its famous tenants and the host of great people who gathered and held high converse within its walls, is indeed 'A House of Memories'—of great and brilliant Memories. If we take the three outstanding names of the House and the Chapel, Newton, Burney, Toplady, we see that they represent respectively, Science, Literature, Religion. And these three agree in one, for Science and Literature are but the handmaids of Religion.

THE END.

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